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| 10/003,309      | 12/06/2001  | Katsuya Kanakubo     | 00-370837           | 4819             |

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EXAMINER

MATTIS, JASON E

ART UNIT PAPER NUMBER

2665

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/003,309 | <b>Applicant(s)</b><br>KANAKUBO, KATSUYA |  |
|                              | <b>Examiner</b><br>Jason E. Mattis   | <b>Art Unit</b><br>2665                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. This Office Action is in response to the amendment filed 10/21/05. Due to the amendment, the previous drawing objections have been withdrawn. New claim 25 has been added. Claims 1-25 are currently pending in the application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4, 7-10, 14-15, 19-22, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaczmarczyk et al. (U.S. Pat. 6775269).

**With respect to claim 1**, Kaczmarczyk et al. discloses a data transfer apparatus (See column 4 lines 59-65 and Figure 1 of Kaczmarczyk et al. for reference to signaling system 16 and media gateway 18, which together act as a data transfer apparatus). Kaczmarczyk et al. also discloses transferring a packet based on transfer information corresponding to one of a plurality of entries set in a packet search table in advance (See column 6 lines 26-47 and Figures 2A-2B of Kaczmarczyk et al. for

**reference to transferring packets based on information corresponding to entries in a database 40, which is a packet search table).** Kaczmarczyk et al. further discloses a packet search table receiving packet search information for a packet to be transferred **(See column 6 lines 26-47, column 7 lines 50-57 and Figures 2B and 4A of Kaczmarczyk et al. for reference to database 40, which is a packet search table, and for reference to the address attribute table 48, which is part of the database 40, receiving packet search information retrieved from a packet).** Kaczmarczyk et al. also discloses the search table comprising a plurality of registration tables storing the transfer information set in advance registered by objectives **(See column 6 lines 34-47 and Figure 2B of Kaczmarczyk et al. for reference to database 40 containing a plurality of tables having transfer information stored in advance and registered by objectives including dialed digits analysis table 50, local dial plan table 52, calling address privilege table 54, outbound privacy table 56, and route plan table 58).** Kaczmarczyk et al. further discloses a search means to search for the transfer information from the registration tables based on the received packet search information **(See column 7 line 40 to column 8 line 32 and Figure 4A of Kaczmarczyk et al. for reference to call control engine 34 and address attribute table 48 working together as a search means to search for transfer information from the tables 50, 52, 54, 56, and 58).** Kaczmarczyk et al. also discloses a transfer information address table having address information registration positions of each of the registration tables with the positions indicating address information where the transfer information is stored by the registration tables **(See column 2 lines 36-53, column 6 lines 34-47, and**

**Figure 2B of Kaczmarczyk et al. for reference to using a table that includes pointers to other tables and for reference to address attribute table 48, which contains pointers of address where transfer information is stored in the tables 50, 52, 54, 56, and 58).** Kaczmarczyk et al. further discloses the address information being output by the address table to the registration table to obtain transfer information corresponding to the packet search information received by the search means and the registration tables outputting the obtained transfer information for transferring the packet **(See column 7 line 40 to column 9 line 16 and Figure 4A of Kaczmarczyk et al. for reference to the address table outputting the pointer that are sent to the corresponding registration tables and for reference to the registration tables outputting obtained transfer information for transferring the packet).**

**With respect to claim 10, Kaczmarczyk et al. discloses a transfer information method of a data transfer apparatus (See column 4 lines 59-65 and Figure 1 of Kaczmarczyk et al. for reference to signaling system 16 and media gateway 18, which together act as a data transfer apparatus performing a method).**

Kaczmarczyk et al. also discloses transferring a packet based on transfer information corresponding to one of a plurality of entries set in a packet search table in advance **(See column 6 lines 26-47 and Figures 2A-2B of Kaczmarczyk et al. for reference to transferring packets based on information corresponding to entries in a database 40, which is a packet search table).** Kaczmarczyk et al. further discloses registering function entries in a function table and registering address information in a transfer information address table with each registered entry in the function table linked

to a registered entry in the address table so that when any function entry is hit during a packet search, a corresponding address information is read from the address table (**See column 2 lines 36-53, column 7 line 40 to column 9 line 16, and Figure 4A of Kaczmarczyk et al. for reference to the database 40 including a calling address attribute table 48, which acts as both a function table and an address table by linking function information found in a packet to corresponding pointers, which are address information, such that any time a function entry is found in the attribute table 48, a corresponding address pointer is read from the attribute table 48**). Kaczmarczyk et al. also discloses registering transfer information in a plurality of registration tables by objectives (**See column 6 lines 34-47 and Figure 2B of Kaczmarczyk et al. for reference to database 40 containing a plurality of tables having transfer information registered by objectives including dialed digits analysis table 50, local dial plan table 52, calling address privilege table 54, outbound privacy table 56, and route plan table 58**). Kaczmarczyk et al. further discloses registering the address of each of the registration tables in the address table (**See column 2 lines 36-53, column 6 lines 34-47, and Figure 2B of Kaczmarczyk et al. for reference to using a table that includes pointers to other tables and for reference to address attribute table 48, which contains pointers to the tables 50, 52, 54, 56, and 58**). Kaczmarczyk et al. further discloses linking the transfer information stored on each of the registration tables based on the address of the address table corresponding to a matching entry (**See column 7 line 58 to column 9 line 13 and Figure 4A of Kaczmarczyk et al. for reference to linking transfer information on**

**each of the tables 50, 52, 54, 56, and 58 based on the indexes stored in the table 48).**

**With respect to claim 15, Kaczmarczyk et al. discloses a transfer information search method of a data transfer apparatus (See column 4 lines 59-65 and Figure 1 of Kaczmarczyk et al. for reference to signaling system 16 and media gateway 18, which together act as a data transfer apparatus performing a search method).**

Kaczmarczyk et al. also discloses transferring a packet based on transfer information corresponding to one of a plurality of entries set in a packet search table in advance **(See column 6 lines 26-47 and Figures 2A-2B of Kaczmarczyk et al. for reference to transferring packets based on information corresponding to entries in a database 40, which is a packet search table).** Kaczmarczyk et al. further discloses creating a function table set with a plurality of search pattern entries, a transfer information address table set with address information of transfer information that corresponds to the search pattern entries, and registration tables with transfer information registered by objectives and addressed by the address information of the address table **(See column 2 lines 36-53, column 6 lines 26-47, and Figure 2B of Kaczmarczyk et al. for reference to the database 40 having an address attribute table 48, which acts as both a function table and an address table by linking function information found in a packet to corresponding pointers, which are address information, and for reference to the pointers each corresponding to one of tables 50, 52, 54, 56, and 58, which are registration tables with transfer information registered by a different objective for each table).** Kaczmarczyk et al.

also discloses searching the function table for an entry matching an input packet search information (**See column 7 line 40 to column 9 line 16 and Figure 4A of Kaczmarczyk et al. for reference to searching the attribute table 48 using obtained from packet search information**). Kaczmarczyk et al. further discloses obtaining an address corresponding to the matching entry of the entries of the address table (**See column 6 lines 34-47, column 7 lines 18-57, and Figure 2B for reference to using address attribute table 48, which contains pointers to the tables 50, 52, 54, 56, and 58, and for further reference to examining an Internet Protocol message and using information in the message to retrieve indexes to tables using information from the address attribute table 48**). Kaczmarczyk et al. also discloses obtaining the transfer information on each of the registration tables based on the obtained address (**See column 7 line 58 to column 9 line 13 and Figure 4A of Kaczmarczyk et al. for reference to obtaining transfer information on each of the tables 50, 52, 54, 56, and 58 based on the indexes stored in the table 48**).

**With respect to claims 4 and 22**, Kaczmarczyk et al. discloses entries are classified into the plurality of types to execute a search process for the entries independently (**See column 6 lines 34-47, column 7 line 58 to column 9 line 13, and Figures 2B and 4A of Kaczmarczyk et al. for reference to each of the tables being searched independently by functions**).

**With respect to claims 7-8 and 19-20**, Kaczmarczyk et al. discloses that the search process is executed a plurality of times according to the set number of the entries (**See column 6 lines 34-47, column 7 line 58 to column 9 line 13, and**



**Figures 2B and 4A of Kaczmarczyk et al. for reference to the search process being performed once for each table according to the number of tables).**

**With respect to claim 9, 14, and 24, Kaczmarczyk et al. discloses that transfer information is obtained by a result of indirect reference by the address (See column 2 lines 36-53 for reference to using pointers to address of other tables meaning the transfer information is obtained by a result of indirect reference by the pointers).**

**With respect to claim 21, Kaczmarczyk et al. discloses that a search process is executed independently divided by functions (See column 6 lines 34-47, column 7 line 58 to column 9 line 13, and Figures 2B and 4A of Kaczmarczyk et al. for reference to the search processes being executed independently divided by functions based on the type of table).**

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 6, 11, 13, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczmarczyk et al. in view of Henderson et al. (U.S. Pat. 6748484).

**With respect to claim 2**, Kaczmarczyk et al. discloses a search process circuit that receives the packet and issues the packet search information to the search table **(See column 6 lines 15-24 and Figure 2A of Henderson et al. for reference to call control engine 34, which is a search process circuit that receives a packet and issues packet search information to the database 40)**. Kaczmarczyk et al. also discloses that the search means receives the issued packet search information and comprises a memory with stored search pattern entries that satisfy different packet search information so a received packet search information hits a satisfying search pattern with the entries being stored prior to the receipt of the packet search information **(See column 7 line 40 to column 9 line 16 and Figure 4A of Kaczmarczyk et al. for reference to the calling address attribute table 48 also functioning as a memory with stored entries that each correspond to different packet search information such that search information from a received packet corresponds to search pattern entries in the table)**. Kaczmarczyk et al. further discloses that the address table receives input from the memory with the registration positions of the address table corresponding to the search pattern entries of the memory so that each hit search pattern entry selects a corresponding registration position that indicates an address of information stored by the registration tables that is outputted to the registration tables to obtain the transfer information corresponding to the received packet with the registration tables outputting the transfer information to the search process circuit **(See column 7 line 40 to column 9 line 16 and Figure 4A of Kaczmarczyk et al. for reference to the attribute table 48 acting as a memory as well as an address table by storing**

**search pattern entries that correspond to pointers, or registration positions, so that a hit of the search pattern selects a corresponding pointer which is then sent to a corresponding registration table, on of tables 50, 52, 54, 56, and 58, to obtain and output transfer information from the registration table to the call control engine 34).** Kaczmarczyk et al. also discloses that the entries are classified into a plurality of types **(See column 6 lines 34-47 and Figure 2B of Kaczmarczyk et al. for reference to entries being placed in tables classified by different types).**

Kaczmarczyk et al. does not disclose that the search means comprises a content-addressable memory.

**With respect to claims 11 and 16,** Kaczmarczyk et al. does not disclose that the function table is a content-addressable memory. Kaczmarczyk et al. does disclose that the entries are classified into a plurality of types **(See column 6 lines 34-47 and Figure 2B of Kaczmarczyk et al. for reference to entries being placed in tables classified by different types).**

**With respect to claims 2, 11, and 16,** Henderson et al., in the field of communications, discloses using a content-addressable memory as a part of a routing table in a data transfer apparatus and method **(See column 1 lines 23-45 of Henderson et al. for reference to using a content addressable memory to store a routing table).** Using a content-addressable memory as a part of a routing table in a data transfer apparatus and method has the advantage of providing faster performance and search compared to other memory types **(See column 1 lines 23-45 of Henderson et al. for reference to this advantage).**

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Henderson et al., to combine using a content-addressable memory as a part of a routing table in a data transfer apparatus and method, as suggested by Henderson et al., with the system and method of Kaczmarczyk et al., with the motivation being to provide aster performance and search compared to other memory types.

**With respect to claims 6, 13, and 18**, Kaczmarczyk et al. discloses that the entries are classified into a plurality of types **(See column 6 lines 34-47 and Figure 2B of Kaczmarczyk et al. for reference to entries being placed in tables classified by different types)**. Kaczmarczyk et al. also discloses that the transfer information is obtained by a result of a search divided by objectives **(See column 6 lines 34-47, column 7 line 58 to column 9 line 13, and Figures 2B and 4A of Kaczmarczyk et al. for reference to the tables each being searched separately with each table having a different objective)**.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczmarczyk et al. in view of Rao et al. (U.S. Pat. 6674756).

**With respect to claim 3**, Kaczmarczyk et al. discloses using variable entries that are set or deleted during operation **(See column 3 lines 16-28 of Kaczmarczyk et al. for reference to allowing a subscriber to change table entries as needed)**.

Kaczmarczyk et al. does not disclose using fixed entries.

**With respect to claim 3**, Rao et al., in the field of communications, discloses using fixed entries **(See column 13 lines 5-13 for reference to a table using static address entries)**. Using fixed entries has the advantage of making sure that non-changing information is stored permanently in a packet-forwarding table.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rao et al., to combine using fixed entries, as disclosed by Rao et al., with the system and method of Kaczmarczyk et al., with the motivation being to make sure that non-changing information is stored permanently in a packet-forwarding table.

7. Claims 5 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczmarczyk et al. in view of the Applicant's admitted prior art.

**With respect to claims 5 and 23**, Kaczmarczyk et al. discloses that the search means has functions classified to be performed independently including a packet filter **(See column 6 lines 34-47, column 7 line 58 to column 9 line 13, and Figures 2B and 4A of Kaczmarczyk et al. for reference to the search being classified into different types that are performed independently based on the table types, with one table being a calling privilege table 54 that determines whether senders of a packet have privileges to send packets and filters packets accordingly)**.

Kaczmarczyk et al. does not disclose a packet account and QoS assurance flow search.

**With respect to claims 5 and 23**, Applicant's admitted prior art discloses performing a search to create a packet account and performing a QoS assurance flow

search (**See page 5 line 22 to page 8 line 8 of the Applicant's specification for reference to performing a packet account and a QoS assurance flow search**).

Performing a search to create a packet account and performing a QoS assurance flow search has the advantage of allowing statistics to be generated to make sure a user is receiving a guaranteed level of service.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of the Applicant's admitted prior art, to combine using fixed entries, as disclosed by the Applicant's admitted prior art, with the system and method of Kaczmarczyk et al., with the motivation being to allow statistics to be generated to make sure a user is receiving a guaranteed level of service.

8. Claims 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczmarczyk et al. in view Henderson et al. as applied to claims 2, 6, 11, 13, 16, and 18 above, and in further view of Rao et al.

**With respect to claims 12, and 17**, Kaczmarczyk et al. discloses using variable entries that are set or deleted during operation (**See column 3 lines 16-28 of Kaczmarczyk et al. for reference to allowing a subscriber to change table entries as needed**). The combination of Kaczmarczyk et al. and Henderson et al. does not disclose using fixed entries.

**With respect to claims 12, and 17**, Rao et al., in the field of communications, discloses using fixed entries (**See column 13 lines 5-13 for reference to a table using**

**static address entries**). Using fixed entries has the advantage of making sure that non-changing information is stored permanently in a packet-forwarding table.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rao et al., to combine using fixed entries, as disclosed by Rao et al., with the system and method of Kaczmarczyk et al. and Henderson et al., with the motivation being to make sure that non-changing information is stored permanently in a packet-forwarding table.

### ***Allowable Subject Matter***

9. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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